

REMARKS

The Office Action dated September 28, 2006 has been received and carefully reviewed, wherein the pending claims 1-13 stand rejected, and the drawings were objected to. Reconsideration of pending claims 1-13 is respectfully requested in view of the above amendment and the following remarks.

DRAWINGS

The drawings were objected to under 37 CFR 1.83(a) as allegedly failing to show every feature of the invention specified in the claims. In particular, the Office Action states at page 2 that the "rate indication message including either a channel condition measurement at the receiver or a data rate based on a channel condition message" set forth in claims 1 and 11 must be shown or the feature(s) canceled from the claim(s). In accordance with the request in the Office Action, 37 CFR 1.121 (d), and in order to further prosecution of the subject application, Applicants have submitted herewith a substitute sheet 1 with replacement drawing Fig. 1, in which the requested text has been added to Fig. 1 block 135, wherein no new matter has been added as a result. In this respect, support for the drawing change is found at least at page 3, lines 18-20 of the specification, which clearly states that "a rate indication message may be a channel condition measurement at a receiver or a data rate calculated based on a channel condition measurement at a receiver". Entry of the substitute sheet with amended Fig. 1 is therefore requested along with an indication of acceptance of the drawing amendment and withdrawal of the drawing objections.

CLAIM REJECTIONS

The Office Action sets forth three sets of substantive claim rejections with respect to the pending claims 1-13. A first set includes anticipation rejections based on Scheibel 6,212,240 (claims 1, 2, 5, 6, 11, and 12), as well as obviousness rejections based on combinations of Scheibel with Reed 4,939,731 (claim 4), Scheibel with Wang 5,838,267 (claims 3 and 13), Scheibel with Corke 6,414,938 (claim 7), and Scheibel with Kameda 5,940,772 (claims 8-10). A second set of rejections includes obviousness rejections based on Reed combined with Sayeed (claims 1, 2, 4, 5, 11, and 12) and these references further combined with Wang (claims 3 and 13) or Corke (claims 6-10). In a third set of rejections, the independent claims 1 and 11 were rejected as obvious in

view of Reed combined with Padovani 6,574,211. Independent claim 1 has been amended above to recite "receiving a rate indication message including a data rate based on a channel condition measurement at the receiver", and independent claim 11 was amended to include "transmitting a rate indication message if the first data transmission was not successfully received at the receiver, wherein the rate indication message includes a data rate based on a channel condition measurement at the receiver". The current claim terminology is believed to distinguish over the above references which do not teach or otherwise suggest inclusion of a data rate within a rate indication message as claimed. In particular, the ARQ system of Scheibel does not involve receiving or transmitting a rate indication message that includes a data rate based on a channel condition measurement at the receiver as set forth in Applicants' claims, and the ARQ messages of Reed do not include a data rate as claimed. The secondary references to Wang, Corke, Kameda, Sayeed, and Padovani fail to remedy the deficiencies of Scheibel and Reed, whereby the pending claims are neither anticipated nor rendered obvious by the cited art. Applicants therefore submit that the pending claims are patentably distinct from, and not anticipated by, the cited references, whereby reconsideration and withdrawal of the current claim rejections is requested.

I First Set of Rejections

A Anticipation Rejections

Claims 1, 2, 5, 6, 11, and 12 were rejected under 35 U.S.C. § 102, as being anticipated by Scheibel 6,212,240. Independent claim 1 recites a method of transmitting data, comprising inter alia "receiving a rate indication message including a data rate based on a channel condition measurement at the receiver". Scheibel describes an ARQ system which does not involve receiving such a rate indication message. Consequently, Scheibel does not anticipate claims 1, 2, 5, 6, 11, and 12 and reconsideration thereof under 35 U.S.C. § 102 is respectfully requested.

Regarding Claim 1, the Office Action at pages 3 and 4 states:

Scheibel discloses a method of transmitting data ... comprising the steps of ... receiving a rate indication message (see FIG. 3, step 304, receive Acknowledgment message that indicates to retransmit at second rate; also see FIG. 3, ACK 212) including ... a data rate-based on a channel condition measurement at the receiver (see FIG. 2, ACK 21 frame header 212, which includes the modulation rate; see col. 4, line 1-12,30-34; see FIG. 3, step 304; the ACK frame indicates/shows/demonstrates/represents a

first quantity of blocks that were not received and/or indicate to retransmit at second modulation rate; see col. 5, line 45-53; see col. 3, line 45 to col. 4, line 49);

Thus, the Office Action appears to equate the term "including" as meaning indicating, showing, demonstrating, and representing. This interpretation is misplaced, however, as the ACK 212 of Scheibel does not include a data rate based on a channel condition measurement at the receiver.

Scheibel fails to teach or suggest receiving a rate indication message including a data rate based on a channel condition measurement at the receiver. The Office Action refers to ACK frame header 212, and asserts that this frame 212 of Scheibel includes the modulation rate, citing to col. 4, line 1-12, 30-34. In this regard, Applicants note that Scheibel does indeed state at col. 4, lines 1-10 that the header 203 of the message 202 (sent from the sending device 107 to the target device 101 in Fig. 1) comprises control information such as the modulation rate at which the data blocks 204-207 (of message 202) will be transmitted. Scheibel further indicates at col. 4, lines 25-28 that the ACK message 212 is transmitted at the lowest possible modulation rate using QPSK modulation. Scheibel goes on to state that the header 213 of the ACK message 212 includes the same type of control information as the message header 203. However, because the ACK message 212 is transmitted at the lowest possible modulation rate, even if Scheibel is interpreted as providing a modulation rate of the message 212 in the header 213, such a modulation rate is not "a data rate based on a channel condition measurement at the receiver" as set forth in claim 1. Rather, any such "data rate" included in the ACK header 213, if anything, is the lowest possible modulation rate, and there is no teaching in Scheibel that the ACK header 213 includes a data rate that is based in any way on a channel condition measurement at the target device 101. Therefore, the Scheibel reference fails to anticipate receiving a rate indication message including a data rate based on a channel condition measurement at the receiver.

As Scheibel fails to teach "receiving a rate indication message including a data rate based on a channel condition measurement at the receiver", no prima facie case of anticipation has been established, and reconsideration and withdrawal of these rejections of independent claim 1 and dependent claims 2, 5, and 6 is requested under 35 U.S.C. § 102.

For the same reasons, independent claim 11 and dependent claim 12 are not anticipated by Scheibel, as this claim recites transmitting a rate indication that includes a data rate based on a channel condition measurement at the receiver. Accordingly, reconsideration and withdrawal of the (Scheibel) rejections of claims 11 and 12 is requested under 35 U.S.C. § 102.

B. Obviousness Rejections

Claim 4 was rejected under 35 U.S.C. § 103 as being unpatentable over Scheibel in view of Reed. Claims 3 and 13 were rejected under 35 U.S.C. § 103 as obvious in view of Scheibel in combination with Wang. Claim 7 was rejected as unpatentable over Scheibel in view of Corke, and claims 8-10 were rejected under 35 U.S.C. § 103 as obvious with respect to Scheibel in combination with Kameda. As the claims 3, 4, 7-10, and 13 depend ultimately from independent claim 1 or independent claim 11, these claims also recite methods including "receiving a rate indication message including a data rate based on a channel condition measurement at the receiver" (claims 3, 4, and 7-10), and "transmitting a rate indication message if the first data transmission was not successfully received at the receiver, wherein the rate indication message includes a data rate based on a channel condition measurement at the receiver" (claim 13). As discussed above, Scheibel fails to teach or reasonably suggest receiving a rate indication message including a data rate based on a channel condition measurement at the receiver.

With respect to claim 4, Reed likewise fails to teach or suggest receiving a rate indication message including a data rate based on a channel condition measurement at the receiver. Therefore, the proposed combination of Scheibel with Reed does not result in the claimed invention and no prima facie case of obviousness has been asserted. The ARQ messages of Reed do not include a data rate as claimed. The Office Action asserts on page 10, in connection with the second set of rejections, that Reed teaches receiving a rate indication message indication [sic] either a channel condition measurements at a receiver or a data rate-based on a channel condition measurement at a receiver, in reference to the ARQ message of Fig. 5 and col. 4, line 46-65. The Office Action goes on to allege that the ARQ message in Reed "indicates/shows/demonstrates/represents channel/transmission quality

measurement/detect information and/or changes in baud rate information by indication a request baud rate".

Reed provides a technique for transmitting data signals to receivers, in which the receiver transmits an automatic repeat request (ARQ) message requesting retransmission of any unreceived data, which can include a request for a change in data transmission rate. Importantly, the ARQ messages of Reed do not include a data rate as claimed. The ARQ of Reed does appear to include a rate *change* command, but does not include a data *rate*. While the ARQ message of Reed appears to provide a command to the original transmitting device to *change* the data rate to be used in retransmission attempts, no teaching or suggestion has been identified in the Office Action or found by Applicants in Reed that the ARQ message of Reed includes a data rate. Applicants note the difference between the ARQ message of Reed that includes a request to increase or decrease a data rate and the claimed rate indication message that includes a data rate that is based on a channel condition measurement at the receiver. Since neither of these references teach receiving a rate indication message as claimed, the proposed combination of Scheibel with Reed fails to render claim 4 obvious, whereby reconsideration and withdrawal of the rejection thereof is requested under 35 U.S.C. § 103.

Claims 3 and 13 were rejected under 35 U.S.C. § 103 as obvious in view of Scheibel in combination with Wang. As discussed above, Scheibel fails to teach or reasonably suggest receiving or transmitting a rate indication message including a data rate based on a channel condition measurement at the receiver. The Office Action appears to cite Wang for disclosure of soft combining. However, Wang does not appear to teach or suggest a rate indication message that includes a data rate based on a channel condition measurement at a receiver. Thus, Wang fails to remedy the deficiencies of Scheibel, whereby the proposed combination of Scheibel with Wang does not result in the inventions set forth in claims 3 or 13, and reconsideration and withdrawal of the rejections of these claims is respectfully requested under 35 U.S.C. § 103.

Claim 7 was rejected as unpatentable over Scheibel in view of Corke, wherein the Office Action appears to cite to Fig. 6 steps 606 and 608 of Corke as disclosing the sending of a shift up message. However, Corke, like Scheibel, fails to teach or otherwise suggest receiving a rate indication message including a data rate based on a

channel condition measurement at the receiver, whereby the proposed combination of Corke with Scheibel does not obviate claim 7. Applicants therefore request reconsideration and withdrawal of this rejection of claim 7 under 35 U.S.C. § 103.

Claims 8-10 were rejected under 35 U.S.C. § 103 as obvious in view of Scheibel in combination with Kameda. These claims depend from independent claim 1, which recites receiving a rate indication message including a data rate based on a channel condition measurement at the receiver. As set forth above, the system of Scheibel fails to teach or suggest receipt of such a rate indication message, and Kameda does not remedy this deficiency. Thus, the proposed combination of Scheibel with Kameda fails to teach or fairly suggest all the features of claims 8-10 and reconsideration thereof is requested under 35 U.S.C. § 103.

II Second Set of Rejections

In a second set of rejections (beginning at page 9 of the Office Action), claims 1, 2, 4, 5, 11, and 12 were rejected under 35 U.S.C. 103(a) as being unpatentable over Reed in view of Sayeed. Reconsideration and withdrawal of these rejections is respectfully requested for at least the following reasons.

With respect to claim 1, the Office Action asserts on page 10 that Reed discloses "receiving a rate indication message indication [sic] either a channel condition measurements at a receiver or a data rate-based on a channel condition measurement at a receiver", citing to an ARQ message of Fig. 5, and to col. 4, lines 46-65. The Office Action then asserts that this ARQ of Reed "indicates/shows/demonstrates/represents channel/transmission quality measurement/detect information and/or changes in baud rate information by indication [sic] a request baud rate". Thereafter, the Office Action states "Reed does not explicitly disclose message including. [sic]" and goes on to state "However, a rate indication message/hybrid-ARQ/ARQ including a data rate is well known in the art", citing to Figs. 2B, C, E, and F of Sayeed as allegedly teaching a rate indicating message with Vi rate or 3A rate.

As discussed supra, the Reed reference fails to teach or suggest receiving a rate indication message including a data rate based on a channel condition measurement at the receiver. Sayeed likewise fails to teach this feature of amended independent claims 1 and 11, whereby these claims and dependent claims 2, 4, 5, and 12 are patentably distinct from the proposed combination. In the second embodiment of Sayeed (col. 6,

line 30 through col. 7, line 16), the header of a packet from a receiver to a transmitter is described as containing the number of byte errors that occurred during the most recently received packet. Like Reed, however, Sayeed appears silent with respect to the packet including a data rate based on a channel condition measurement at the receiver. Thus, combining Sayeed with Reed does not result in the claimed invention of claims 1, 2, 4, 5, 11, and 12 and reconsideration thereof is requested under 35 U.S.C. 103(a).

Claims 3 and 13 were rejected on page 13 of the Office Action under 35 U.S.C. 103(a) as being unpatentable over Reed in Reed [Sayeed?] and further view of Wang. As discussed above, neither Reed, nor Sayeed, nor Wang teach or fairly suggest sending or receiving a rate indication message as claimed including a data rate based on a channel condition measurement at the receiver, whereby the proposed combination fails to render claims 3 or 13 obvious under 35 U.S.C. 103(a) and reconsideration of these claims is requested.

Claims 6-10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Reed in view of Sayeed, and further in view of Corke. As set forth in the above remarks, the combination of Reed with Sayeed fails to teach or suggest all the features of amended independent claim 1, specifically, these references do not disclose receiving a rate indication message as claimed including a data rate based on a channel condition measurement at the receiver. As discussed above in connection with the first set of rejections, moreover, Corke also fails to teach this element of the claims, whereby the dependent claims 6-10 are patentably distinct from the proposed combination of Reed with Sayeed and Corke. Applicants therefore respectfully request reconsideration and withdrawal of the rejections of these claims under 35 U.S.C. 103.

III Third Set of Rejections

The independent claims 1 and 11 were rejected under 35 U.S.C. 103(a) as being unpatentable over Reed in view of Padovani 6,574,211. Reconsideration of these rejections is respectfully requested for at least the following reasons.

As discussed above, Reed fails to teach or fairly suggest receiving a rate indication message as claimed including a data rate based on a channel condition measurement at the receiver (as set forth in claim 1), and also fails to teach or suggest transmitting a rate indication message if the first data transmission was not successfully

received at the receiver, wherein the rate indication message includes a data rate based on a channel condition measurement at the receiver (as per claim 11). The Office Action posits at page 17 that the DRC message of Padovani is a rate indicating message that includes a data rate based on channel condition measurement, and refers to col. 20, lines 35-67, Rate Table 1; col. 33, lines 32-65. The Office Action in this regard states that the DRC message carries/includes data rate (according to Table 1) based upon C/I measurement). However, the DRC message of the Padovani reference does not appear to include a data rate as set forth in the claims 1 and 11, but rather includes a bit pattern or rate index indicating a requested one of a number of predetermined data rates. For instance, Padovani states at col. 2, lines 18-33:

In the exemplary embodiment, the data rates supported by base stations 4 are predetermined and each supported data rate is assigned a unique rate index. Mobile station 6 selects one of the supported data rates based on the C/I measurement. Since the requested data rate needs to be sent to a base station 4 to direct that base station 4 to transmit data at the requested data rate, a trade off is made between the number of supported data rates and the number of bits needed to identify the requested data rate. In the exemplary embodiment, the number of supported data rates is seven and a 3-bit rate index is used to identify the requested data rate. An exemplary definition of the supported data rates is illustrated in Table 1. Different definition of the supported data rates can be contemplated and are within the scope of the present invention.

Thus, Padovani does not appear to include a data rate within the DRC message, but instead provides only a number of bits needed to identify the requested data rate from a number of predetermined rates. This bit pattern is also referred to as a data rate index in Padovani (col. 33, lines 52-57). The combination with Reed thus fails to teach or suggest all the elements of amended independent claims 1 and 11. Applicants therefore request reconsideration of the rejections of these claims under 35 U.S.C. 103(a).

CONCLUSION

For at least the above reasons, the currently pending claims are believed to be in condition for allowance and notice thereof is requested.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should any fees be due as a result of the filing of this response, the Commissioner is hereby authorized to charge the Deposit Account Number 06-0308, LUTZ200413.

Respectfully submitted,

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